"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

PHASE I BOOK EXPLOITATION SOV/4302

Akademiya nauk SSSR. Komissiya po fizike planet

Izvestiya, vyp. 1 (News of the Commission on the Physics of Planets, No. 1) Khar'kov, 1959. 108 p. 1,000 copies printed.

Editorial Board: N.P. Barabashov, Academician of the Academy of Sciences Ukrainskaya SSR (Resp. Ed.); V.I. Yezerskiy, Candidate of Physics and Mathematics (Secretary); A.V. Markov, Professor; Yu. N. Lipskiy, Candidate of Physics and Mathematics; and A.T. Chekirda, Candidate of Physics and Mathematics; Ed.: D.A. Vaynberg; Tech. Ed.: A.S. Trofimenko.

PURPOSE: This publication is intended for astrophysicists and astronomers.

COVERAGE: This collection of articles constitutes the first issue of a new journal on problems in planetary physics. The first six articles discuss the surface features, polarimetry, and spectrophotometry of the Moon. The remaining articles deal with the physics of Mars, Jupiter, and the asteroids. No personalities are mentioned. References accompany individual articles.

AVAILABLE: Library of Congress

Card 3/3

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZERSKIY, V.I.; PLUZHNIKOV, V.Kh.; CHAYKOVSKIY, E.F.

Observation of artificial earth satellites at the Kharkov Station. Biul.sta.opt.nabl.isk.sput.Zem. no.8:15-16 '59. (MIRA 13:6)

1. Khar'kovskaya stantsiya nablyudeniya iskusstvennykh sputnikov Zemli.
(Artificial satellites—Tracking)

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S/035/60/000/007/013/018
A001/A001

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 7, p. 77, # 6453

AUTHORS: Barabashov, N.P., Yezerskiy, V.I.

TITLE: Color Contrasts of Lunar Craters

PERIODICAL: Astron. tsirkulyar, 1959, okt. 15, No. 205, pp. 9-10

TEXT: Two photographs taken through the red light filter (λ_{eff}=650 mμ) and 2 photographs taken through the blue filter (λ_{eff}=415 mμ) were used for determining the color contrasts of lunar craters. Values of special excesses of color indices relative to the standard region (Sea of Crises) were determined for 5-10 points along the selected cross section. It turned out that all the craters measured were redder than the standard region. No relation of the color with the distance from the crater center was discovered. In different cross sections of the same crater the distribution of color excesses is different.

V.P. Fedorovich

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

3(1)
AUTHORS: Barabashov, N.P., Yezerskiy, V.I., and Fedorets, V.A. SOV/33-36-3-16/29

TITLE: On Colour Contrasts of the Lunar Surface

PERIODICAL: Astronomicheskiy zhurnal, 1959, Vol 36, Nr 3, pp 496-502 (USSR)

ABSTRACT: The paper reports on a part of the complex investigations of the Moon, carried out in the Khar'kov Observatory. The observations were made with a three-prism-spectrograph in spring and autumn 1956. The properties of reflection of the surface of the Moon, especially the colour contrasts were investigated. In the usual system of colour indices they are $0^m.2 \div 0^m.3$. In most cases it is $\Delta CI/\Delta \lg I_{550} \approx 0.6$ (almost linear). The author mentions A.T. Chekirda, V.V. Sharonov, and L.N. Radlova.
There are 10 references, 9 of which are Soviet, and 1 German.

ASSOCIATION: Khar'kovskaya astronomicheskaya observatoriya (Khar'kov Astronomical Observatory)

SUBMITTED: February 10, 1959

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZERSKAYA, V.A.; YEZERSKIY, V.I.

Comparing catalogs of the reflecting power of the moon's surface.
Astron.tsir. no.205:10-11 O '59. (MIRA 13:6)

1. Khar'kovskaya astronomicheskaya observatoriya.
(Moon--Surface)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZERSKIY, V. I., BARABASHOV, N.

"On The Photometric Uniformity of the Lunar Surface".

paper presented at IAU Symposium on the Moon, Leningrad, USSR, 6-8 Dec 60.

The main properties of the reflection of light from the lunar surface, common for different formations, can be explained by the extreme roughness (microrelief) of the lunar surface. The comparision of the brightness of different objects, the study of intensity distribution on the lunar disk for different phase angles and the comparison of the indicatrice of reflection of separate details confirm the high photometric uniformity of the Moon's surface. This is evidence of the considerable influence of external cosmic factors on the formation of the microrelief of the Moon.

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3.2500 (1080)

AUTHORS: Barabashov, N.P., Yezerskiy, V.I.

TITLE: Reflection indicatrices of individual sections of the lunar surface

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 10, 1961, 66-67, abstract 10A464 ("Izv. Komis. po fiz. planet", 1960, no.2, 65-72)

TEXT: To study the law of lunar surface reflection, the authors made use of the principle of reciprocity which permits photometrical comparisons of sections located symmetrically relative to intensity equator at approximately the same longitude. The method was applied to data of the catalog of V.A. Fedorets. The results are presented in graphs whose consideration leads to the following conclusions. As a rule, indicatrices of the compared sections coincide within the limits of possible errors. In those cases when there are marked differences, the latter can be explained by the difference in the inclinations of the sections compared to the surface of the lunar sphere. The data of this work complement and develop the conclusions, drawn earlier, on the photometric uniformity of the lunar surface. Indicatrices of the light rays and the neighboring regions coincide completely. This means that light rays adopt the photometric structure

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Reflection indicatrices ...

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of those regions in which they are located. This can be the case only when the particles forming the cover of the rays are considerably smaller than unevenness of the general microrelief of the lunar surface. Some parts of the Clavius crater and the Wood spot are noted as anomalous objects. As to the latter, a conjecture is expressed that its surface is extremely uneven. There are 6 references.

I. Lebedeva

[Abstracter's note: Complete translation]

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A001/A101

3,2500

AUTHORS: Barabashov, N. P., Yezerskiy, V. I.

TITLE: Spectrophotometric observations of lunar craters

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 6, 1962, 64, abstract 6A482 ("Izv. Komis. po fiz. planet", 1961, no. 3, 50 - 55)

TEXT: The authors present the results of spectrophotometric observations of the Alphons crater and other craters at the Khar'kov Astronomical Observatory in 1958 - 1959. No anomalies were detected in albedo of individual sections of the lunar craters, including the central peak of the Alphons crater. There are 6 references.

Authors' summary

[Abstracter's note: Complete translation]

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A001/A101

3,2500

AUTHORS: Yezerskaya, V. A., Yezerskiy, V. I.

TITLE: On brightness distribution over the lunar disk

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 6, 1962, 64, abstract 6A484 ("Izv. Komis. po fiz. planet", 1961, no. 3, 68 - 73)

TEXT: A photometric investigation of brightness distribution over the lunar disk has shown that brightness along planetocentric meridians remains constant, within the limits of errors, whereas along the intensity equator brightness rises continuously from the disk center to the limb. On the basis of these data the following functional equation was obtained for the function expressing brightness:

$$B = f\left(\frac{\cos i}{\cos \varepsilon}, \omega\right).$$

There are 15 references.

Authors' summary .

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZERSKIY, V.I.; OPRYATOVA, V.S.

Ultraviolet spectrophotometry of lunar surface. Astron.tsir. no.224:16-17 Ag '61. (MIRA 16:1)

1. Khar'kovskaya astronomicheskaya observatoriya.
(Spectrophotometry) (Moon—Surface)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZERSKIY, V. I.

BOBROV, M. S., Astronomical Council, Academy of Sciences USSR /1960/- "Optics and geometry in the matter of Saturn's rings"

PROKOF'YEV, Vladimir K., Crimean Astrophysical Laboratory imeni G. A. Shayn /1962/- "On the presence of oxygen in the atmosphere of Venus"

SALOMONOVICH, A. Ye., Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR, and KUZ'MIN, Arkadiy D., Radio Astronomy Laboratory, Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR - "Observations of the radioemission of Venus and Jupiter on the wave of 8 mm."

SALOMONOVICH, A. Ye., KUZ'MIN, Arkadiy D., and KISLYAKOV, A. G. - "Radioemission of Venus on the wave of 4 mm."

SALOMONOVICH, A. Ye., KUZ'MIN, Arkadiy D., RIKHKOVA, V. P., and SHAVLOVSKIY, I. V. - "Observations of the radioemission of Venus and Jupiter on the wave of 3.3 cm."

SALOMONOVICH, A. Ye., and KUZ'MIN, A. D. - "Radioemission of Venus on the wave of 9.6 cm."

SALOMONOVICH, A. Ye., and KUZ'MIN, A. D. - "Results of the observations of radioemission of Venus in 1961"

SEARGENOV, Vsevolod V., Director, Astronomical Observatory, Leningrad State University /1961 position/- "Probable state of the surface and atmosphere of the planet Mars according to photometric and colorimetric data"

VSEKHSVYATSKIY, Sergey K., Head of the Chair of Astronomy, Kiev State University /1961 position/- "Nature of Saturn's rings and sigma of the existence of a ring around Jupiter"

MEZERSKIY, V. I., and PANOPASHEV, N. P., Director, Kharkov Astronomical Observatory, Kharkov State University /1960 position/- "Optical properties of the atmosphere and surface of Mars according to photometric and spectrophotometric observations carried out at the Kharkov University Observatory"

rt to be submitted for the 11th Intl. Astrophysics Symposium, Belgian . of Astrophysics, Cointe-Sclessin, Belgium, 9-11 Jul 1962.

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YEZERSKIY, V. [IEzers'kyi, V.], kand.fiz-matem.nauk

First moorings on star ways. Znan. ta pratsia no.12:1-2 D '62. (MIRA 16:1)

(Mars (Planet)) (Venus (Planet))

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3.2500

AUTHORS: Barabashov, N. P., Yezerskiy, V. I.

TITLE: Photometric studies of the microrelief of the lunar surface

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 12, 1962, 65, abstract 12A477 ("Uch. zap. Khar'kovsk. un-t", 1962, v. 122, "Tr. Astron. observ.", v. 14, 5 - 78)

TEXT: This is a survey of the basic works described in historical sequence, on microrelief of the lunar surface by the photometric method. The article contains also data on this problem obtained by studying polarization and thermal properties of the lunar surface and its investigation by the radar method. There are 79 references.

Authors' summary

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

BARABASHOV, N.P.; YEZERSKIY, V.I.; PRISHLYAK, N.P.

Differences in the microrelief of separate sections of the moon's surface. TSir.Astron.obser.Khar.un. no.25:15-21 '62.
(MIRA 17:3)

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L 19328-63 EWT(1)/FCC(w)/BDS/ES(v) AFFTC/ESD-3 Pe-4/Po-4 GW

ACCESSION NR: AR3002047 S/0269/63/000/005/0060/0060

SOURCE: RZh. Astronomiya. Otdel'nyy vypusk. Abs. 5.51.495

AUTHOR: Barabashov, N. P.; Yezerskaya, V. A.; Yezerskiy, V. I.

TITLE: The photometric method of studying the relief of the lunar surface

CITED SOURCE: Uchenyye zapiski Khar'kovskogo universitita, v. 122, 1962, Trudy Astronomicheskoy observatorii, v. 14, 107-110

TOPIC TAGS: astronomical photometry, lunar microrelief

TRANSLATION: The authors refine the photometric method for determining the steepness of slopes and elevations in the lunar seas (first proposed by van I. Diggelen, Bull. Astron. Inst. Netherl., 1951, 11, No. 423). They explain that this method supplies direct data on slopes provided the photographic strips are taken sufficiently close to the equator of intensity and in directions parallel to it. In such measurements it is generally useful to employ large-scale lunar photographs with a resolution of $< 1''$. The authors made measurements of moon photography obtained at a phase angle of $77^{\circ}.5$, with an image diameter of 59 mm. Photometric strips along the Arzachel and Archimedes craters, obtained on the MF-4 automatic

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microphotometer are shown in the illustrations. In the Arzachel crater ($\varphi = -12°.3$), inclinations of the western and eastern slopes are 6°.8 and 13°.5. In the case of Archimedes ($\varphi = +34°.6$), they are 4°.2 and 2°.1. A comparison of photometric measurements with the results obtained by the shadow method will give a clue to the feasibility of studying microrelief in various parts of a crator -- a matter of considerable interest. I. Lebedeva

DATE ACQ: 30May63 SUB CODE: AI ENCL: 00

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZERSKIY, V.I.

BARABASHOV, N.P., YEZERSKIY, V.I.

Some results of the Investigations of the Microrelief of the Lunar Surface by Means of Photometric Method

Report to be submitted for the 4th International Space Science Symposium (COSPAR) Warsaw, 2-12 June 63

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

ACCESSION NR: AT4029417 S/2835/62/000/025/0015/0021

AUTHOR: Barabashov, N. P.; Yezerskiy, V. I.; Prishlyak, N. P.

TITLE: Differences in the microrelief of different sectors of the lunar surface

SOURCE: Kharkov. Universitet. Astronomicheskaya observatoriya. Tsirkulyar, no. 25, 1962, 15-21

TOPIC TAGS: astronomy, photometry, lunar surface, lunar microrelief, moon

ABSTRACT: To a considerable degree, the lunar surface possesses photometric uniformity and therefore the microrelief responsible for the character of the reflection is also uniform. Only in individual cases is there an appreciable difference, indicating a difference in microrelief or the presence of slopes. In making a detailed study of the photometric characteristics of individual sectors of the lunar surface it is desirable to compare them with averaged data for the lunar surface. Such averaging is possible because, for a particular value of the phase angle, brightness is a function only of selenographic longitude. The authors used graphic methods for finding the dependence of B on λ for different values of α. The brightness of a detail was expressed by its brightness at full moon. The resulting curves of the dependence of brightness on λ for different values of the

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phase angle, when put in graphic form, represent the law of light reflection from the lunar surface as a whole. On the basis of the dependence of B on λ it is possible to compute the relative brightness of the moon for a particular phase angle. The derived curves were used to determine the deviations of brightness of various details from the curves representing the averaged lunar surface, the deviations being expressed by the relative value $\Delta B/B$, where ΔB is the deviation, with sign taken into account, and B is the brightness value from the curve for the corresponding value of λ. The character of the dependence of $\Delta B/B$ of individual details on phase angle was then investigated. A considerable number of details were found for which the value $\Delta B/B$ and the dispersion σ are small and which represent a photometrically averaged moon. The condition $\left| \frac{\Delta B}{B} \pm \sigma \right| < 0.15$ was satisfied by 67 of 164 details (about 40%). Of these, 29 were sectors in seas, constituting 54% of the total number of details in the seas. The similar relation for continents and craters was 26% (25 out of 94 details). The above condition was also satisfied by about 50% of the bright rays and bands. There were a number of details for which the value $\overline{\Delta B/B}$ was positive, equal to 0.2-0.3 with a relatively small dispersion; these details are listed in a table; all are craters or continental regions. Another table lists details for which brightness was systematically less and the value $\overline{\Delta B/B}$ had a negative sign with a relatively small dispersion: these details include both continental and sea areas. The authors

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ACCESSION NR: AT4039417

interpret these photometric differences. "In conclusion the authors thank M. K. Kapinus and L. I. Yefimova who performed some of the computations for this study". Orig. art. has: 6 formulas, 2 figures and 4 tables.

ASSOCIATION: Astronomicheskaya observatoriya Khar'kovskogo universiteta (Astronomical Observatory of Khar'kov University)

SUBMITTED: 00 DATE ACQ: 23Jun64 ENCL: 00

SUB CODE: AA NO REF SOV: 007 OTHER: 002

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

L 45122-66 EWT(1) GW

ACC NR: AR6015230 SOURCE CODE: UR/0269/65/000/012/0061/0061

AUTHOR: Yevsyukov, N. N.; Yezerskiy, V. I.

ORG: none

TITLE: Optical properties of the upper atmosphere of Venus

SOURCE: Ref. zh. Astronomiya, Abs. 12.51.468

REF SOURCE: Vestn. Khar'kovsk. un-ta, ser. astron., vyp. 1, no. 4, 1965, 71-74

TOPIC TAGS: Venus atmosphere, Venus upper atmosphere

ABSTRACT: The author analyzes a curve which describes the decrease in the brightness of Regulus, occluded by Venus, for a polytropic atmospheric model. The given curve represents the values of the height of a homogeneous atmosphere at the level of the occultation layer $H_o = 7.6 + 0.2$ km and a temperature gradient $T_o^{-1}(dT/dh) = H_o^{-1}(dH_o/dh) = (0.012 \pm 0.002)\text{km}^{-1}$. Results obtained by G. Voucouleur (RZh Astr, 1962, 11A502) for the same effect are: (6.8 ± 0.2)km and

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$(0.010 \pm 0.002)\ km^{-1}$. If the composition of the atmosphere is assumed to be 90% CO_2 and 10% N_2 ($\mu = 42.5$), then $T_o = 332°K$ and $dT/dh = 4°/km$. A model is constructed of the atmosphere of Venus from cloud level to a height of 20 km above the occultation layer. According to this model, the magnitude of horizontal refraction at cloud level is several minutes instead of the 22" obtained by V. V. Sharonov on the basis of an analysis of the Lomonosov effect. Agreement between the two values is obtained if the effect of differential refraction on the Lomonosov effect is taken into account. There are 5 bibliographic references. (B. Bronshten) [Translation of abstract] [SP]

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

L 07362-67 EWT(1) IJP(c) JDS/GW

ACC NR: AP6033169 SOURCE CODE: UR/0033/66/043/005/1039/1046

AUTHOR: Barabashov, N. P.; Belobrova, O. I.; Yezerskiy, V. I.; Yezerskaya, V. A.

ORG: Kharkov Astronomical Observatory (Khar'kovskaya astronomicheskaya observatoriya)

TITLE: Photometry of the marginal zone of the Moon

SOURCE: Astronomicheskiy zhurnal, v. 43, no. 5, 1966, 1039-1046

TOPIC TAGS: moon, photometry, lunar albedo, lunar landing, lunar surface, lunar optic property

ABSTRACT: Photometric characteristics of the eastern and western marginal zones of the lunar surface were studied by comparison with data for the photometric mean lunar surface. Analysis of published data as well as of original photometric measurements of regions in the eastern and western marginal zones showed the relative brightness of the eastern zone to be generally greater, and that of the western zone to be less than the photometric mean for the lunar surface. This indicates differences in the microrelief structures of the marginal zones--denser material in the outer layer of the eastern marginal zone (including the landing site of the Luna-9 station, $\beta = 17^{\circ}.08$, $\lambda = -64^{\circ}.22$) than in the western marginal zone. Heat anomalies of the lunar surface (e.g., less rapid heating of the eastern than of the western zone after the full phase; craters, warmer than surrounding regions, observed at the time of a lunar eclipse),

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correlated with its photometric characteristics, are cited to support the possibility of the presence of rock formations in addition to porous material. The lesser intensity of the meteor stream near the eastern zone of the Moon caused by the Earth's gravitational field is mentioned as a possible explanation for the observed photometric and structural characteristics. Orig. art. has: 6 figures, 4 tables, and 2 equations.

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ATD PRESS: 5101

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

ACC NR: AR6020773 SOURCE CODE: UR/0269/66/000/003/0071/0071

AUTHOR: Barabashov, N. P.; Yezerskiy, V. I.

TITLE: Differences in macrorelief of the individual parts of the lunar surface. Part 2.

SOURCE: Ref. zh. Astronomiya, Abs. 3.51.590

REF SOURCE: Vestn. Khar'kovsk. un-ta, no. 4, ser. astron., vyp. 1, 1965, 22-42

TOPIC TAGS: lunar reflectivity, selenography, photometric analysis, lunar temperature

ABSTRACT: Part 1 was given in RZhAstr., 1964, 1.51.539. The law of light reflection for the medium-high microrelief and the smooth spherical Moon was derived on the basis of data given in V. A. Fedorov's catalogue as $B(\alpha,\lambda)$, where B is the medium brightness denoted further as B_m, α is the phase angle, λ is the selenographic longitude. Some small objects (details) had systematic deviations in brightness from the medium. These deviations were expressed as $\Delta B/B_m$. The small objects possessing large porosity had $\Delta B/B_m < 0$, because the shadow effect on the very small roughnesses of the microrelief. They were mostly some parts of the seas. The small objects with $\Delta B/B_m > 0$ had a lower porosity. They were chiefly the craters and continental areas. The presence of slopes was expressed by changes in the sign of $\Delta B/B_m$ with the changing sign of the phase angle α. This was observed in terraces and at the bottom of craters. Calculations

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ACC NR: AR6020773

of the theoretical values of $B(\alpha\lambda)$, $\overline{\Delta}B/B_m$ and the brightness gradient near the full moon were made from the Khapke formula. In general, the theoretical data agreed with the observed data. The small objects having large values of $\overline{\Delta}B/B_m$ were exceptions that were attributed to the interchanging of porous substances with rock formations. A comparison of the photometric characteristics obtained and the temperature anomalies detected during radiometric measurements showed a distinct correlation. The conclusion was made that the light rays acquired the photometric structures of the areas through which they passed. Bibliography of 16 titles. L. Bondarenko. [Translation of abstract]

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

ACC NR: AR6035553 SOURCE CODE: UR/0269/66/000/010/0065/0066

AUTHOR: Barabashov, N. P.; Yezerskaya, V. A.; Yezerskiy, V. I.

TITLE: Photographic photometry of some parts of the Sea of Clouds and Sea of Cognition

SOURCE: Ref. zh. Astronomiya, Abs. 10.51.481

REF SOURCE: Vestn. Khar'kovsk. un-ta, 1965, no. 8, ser. astron., vyp. 2, 12-25

TOPIC TAGS: moon, lunar topography, lunar surface, lunar crater, lunar photometry, lunar photography, photometry/Sea of Clouds, Sea of Cognition

ABSTRACT: The following characteristics are obtained for 31 sectors in the region of the Sea of Clouds and the Sea of Cognition: brightness B_{obs}--B_m, where B_m is the brightness of the photometrically averaged lunar surface at corresponding values of the phase angle and selenocentric longitude, reduced (like B_{obs}) to a unit value at $\alpha = 1°.5$; average values of relative declination $\overline{\Delta B/B}_m$ and corresponding values of the mean quadratic deviation σ; values of the relative brightness gradient near zero phase Δ_0, etc. An analysis of the data obtained

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ACC NR: AR6035553

shows that the relationship between $\overline{\Delta B}/B_m$ and Δ_c is in good agreement with the theoretical relationship between these parameters, computed from B. Hapke's formula. The measured areas are basically situated in the region of negative $\overline{\Delta B}/B_m$ values and positive Δ_c values, which corresponds to a somewhat greater degree of irregularity (pitting), and, in accordance with Hapke's theory, corresponds to a somewhat smaller value of the compaction factor as compared with the photometrically obtained average of the lunar surface. It is of interest to note that some of the measured sectors of the Sea of Cognition are available on photographs obtained from close range by Ranger VII. As these photos show, these sectors differ from each other in their distribution of small craters. On the other hand, they do not indicate large deviations according to the law of light reflection. This makes it possible to assume that the observed deviations in the law of reflection of light cannot depend substantially on the presence of such craters and the structural characteristics related to them. A bibliography of 8 titles is included. V. Avramchuk. [Translation of abstract] [SP]

SUB CODE: 03/

Card 2/2

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZERSKIY, V.Ye., inzh., red.; PEVZNER, A.S., red. izd-va; EL'KINA, E.M., tekhn. red.

[Manual of consolidated indices of the cost of planning and research] Spravochnik ukrupnennykh pokazatelei stoimosti proektnykh i izyskatel'skikh rabot. Vvoditsia v deistvie s 1 ianvaria 1958 g. Pt.4. [Ferrous metallurgy] Chernaia metallurgiia. 1958. 83 p. Moskva, Gos. izd-vo lit-ry po stroit. i arkhit. (MIRA 11:8)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva.
(Steel industry) (Coke industry) (Refractory materials)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZERSKIY, V.Ye., inzh., red.; PETROVA, V.V., red. izd-va; BOROVNEV, N.K., tekhn. red.

[Supplement to part 4 of the handbook on consolidated cost indices of planning and research operations; ferrous metallurgy] Dopolneniia k chasti 4 spravochnika ukrupnennykh pokazatelei stoimosti proektnykh i izyskatel'skikh rabot; chernaia metallurgiia. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 14 p. (MIRA 14:12)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva.

(Iron industry—Costs)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

KOLOBKOV, N.V.; MEZENTSEV, V.A.; KASHIN, K.I., doktor geograf.nauk, otv.red.; YEZERSKIY, Ye.M., red.; KUZNETSOV, N.S., red.kart; GLEYKH, D.A., tekhn.red.

[Storm phenomena in the atmosphere] Groznye iavleniia atmosfery. Moskva, Gos.izd-vo geogr.lit-ry, 1951. 149 p. (MIRA 13:6)

(Storms)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

IEZERSKII, Ye.M.

SIMONOV, Ye.D., redaktor; ROTOTAYEV, P.S., redaktor; BOROVIKOV, A.M., redaktor; BULGAKOV, N.V., redaktor; GARF, B.A., redaktor, GVOZDETSKIY, N.A., redaktor; YEZERSKIY, Ye.M., redaktor; ZATULOVSKIY, D.M., redaktor; IVANOV, A.I., redaktor; KUZ'MIN, K.K., redaktor; NESTEROV, V.F., redaktor; SUSLOV, A.D., redaktor; TUSHINSKIY, G.K., redaktor; YUKHIN, I.V., redaktor; LEBEDEVA, N.G., redaktor; GOLITSYN, A.V., redaktor; KOSHELEVA, S.M., tekhnicheskiy redaktor

[Conquered peaks; annual publication of Soviet mountaineering for 1953] Pobezhdennye vershiny; ezhegodnik sovetskogo al'pinizma god 1953. Moskva, Gos. izd-vo geograficheskoi lit-ry, 1954. 606 p.
(Mountaineering--Yearbooks) (MLRA 8:7)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

GROZDETSKIY, N.A.; YEZERSKIY, Ye.M., red.; MIKHAYLOVA, T.A., tekhn.red.

[Physical geography of the Caucasus; course of lectures] Fizicheskaia geografiia Kavkaza; kurs lektsii. Moskva, Izd-vo Mosk. univ. No.1. [General part. Greater Caucasus] Obshchaia chast'. Bol'shoi Kavkaz. 1954. 207 p. (MIRA 12:10)
(Caucasus--Physical geography)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

S/122/63/000/001/012/012
D263/D308

AUTHOR: Yezerskiy, Yu., Engineer

TITLE: Strengthening of external surfaces of rotational bodies

PERIODICAL: Vestnik mashinostroyeniya, no. 1, 1963, 74-76

TEXT: The results of centrifugal ball treatment obtained at the department of Machine Design of the Warsaw Politechnical Institute, show that the method should be applied after the finishing turning, and the quality of the treated surfaces depends on the magnitude of deformation of the surface and on the manufacturing accuracy of the rotating discs in which balls are placed. The method of calculating the depth of the worked layer, based on the Kheyfets formula (Trudy TsNIITMASh, v. 49, Mashgiz, 1952) and applying the Brinell hardness equation, is described and some calculated and experimental data are compared. There are 4 figures and 1 table.

Card 1/1

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZERSKIY, Yu., podpolkovnik

Through swamp areas. Voen. vest. 43 no.9:89-92 S '63.
(MIRA 16:10)

(Military engineering)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

ACC NR: AP6036747 (A,N) SOURCE CODE: UR/0433/66/000/011/0031/0032

AUTHOR: Lenkov, L. (Tashkent); Serdyuk, A. (Tashkent); Yezerzha, A. (Tashkent)

ORG: none

TITLE: Knapsack sprayer-duster

SOURCE: Zashchita rasteniy, no. 11, 1966, 31-32

TOPIC TAGS: agriculture crop, agricultural machinery, ~~knapsack~~ plant sprayer duster, plant disease control

ABSTRACT: A knapsack sprayer-duster for use on small plots, in greenhouses, and in laboratories is described. By using compressed air, it eliminates the necessity of periodic hand pumping and provides constant pressure. A three-liter compressed-air tank designed for 80 atm (gage) pressure and a reservoir of like volume for the spraying solution designed for 4 atm (gage) pressure are mounted on a simple metal frame (see Fig. 1). A schematic of the device is given in Fig. 2. A single filling of the air tank to 60 atm (gage) pressure is sufficient for spraying 40 l of liquid. Tables are given showing the relationship of spray parameters to operating pressure in the reservoir, and indices obtained during operation at 2 atm (gage) pressure.

Card 1/3 UDC: 632.981.1/.2

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

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Adaptation for dusting rather than spraying is described. The weight of the device in working condition is seven kg. It may be assembled in any workshop.

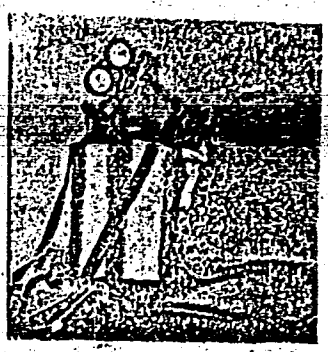

Fig. 1. Sprayer-duster

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

ACC NR: AP6036747

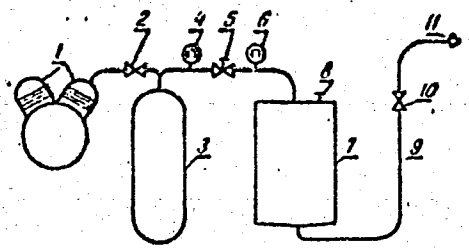

Fig. 2. Schematic of sprayer

1 - Compressor; 2 - needle valve; 3 - compressed-air tank; 4 - manometer (150 atm); 5 - reducer; 6 - manometer (5 atm); 7 - reservoir; 8 - filling pipe; 9 - hose; 10 - needle valve; 11 - nozzle.

[EL]

[WA-50; CBE No. 14]

SUB CODE: 02/ SUBM DATE: none

Card 3/3

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YKZEVSKAYA, Galina Filippovna; YANYUSHINA, Z.S., kand.khim.nauk, red.; VORONINA, L.F., red.

[Brief reference-handbook for chemical writers] Kratkoe posobie avtora-khimika. Leningrad, Gos.in-t prikladnoi khimii, 1959. 123 p. (MIRA 14:4)
(Chemistry) (Technical writing)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZEYEVA, D.A. (Ordzhonikidze)

Clinical aspects of cadmium oxide poisoning. Vrach. delo no.4: 427 Ap '59. (MIRA 12:7)

1. Fakul'tetskaya terapevticheskaya klinika (zav. - prof. V.I. Rakhman) Severo-Osetinskogo meditsinskogo instituta.
(CADMIUM OXIDE--TOXICOLOGY)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZEYEVA, D.A. (Ordzhonikidze)

Peculiarities in the appearance, course and treatment of generalized skin xanthomatosis in diabetes mellitus. Probl.endok.i gorm. 7 no.3:96-101 '61. (MIRA 14:9)

1. Iz kafedry fakul'tetskoy terapii (zav. - prof. E.Ya. Reznitskaya) Severo-Osetinskogo gosudarstvennogo meditsinskogo instituta (dir. - dotsent M.A. Totrov).
(DIABETES) (SKIN--DISEASES)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

GONZIK, F. (Ostrava, Chekhoslovatskaya Sotsialisticheskaya Respublika); YEZH, B. (Ostrava, Chekhoslovatskaya Sotsialisticheskaya Respublika); PAVERA, K. (Ostrava, Chekhoslovatskaya Sotsialisticheskaya Respublika)

All-welded dry gasholders. Avtom. svar. 18 no.4:42-46 Ap '65. (MIRA 18:6)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZHAK, P.

Improvement in the service to workers must have undivided attention. Fin.SSSR 20 no.8:64-65 Ag '59. (MIRA 12:11)

1. Zaveduyushchiy tsentral'noy sberegatel'noy kassoy g.Sovetskaya Gavan'.
(Sovetskaya Gavan'--Savings banks)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZHAKOV, A.N.

KORZHOV, V.D., inzhener; YEZHAKOV, A.N., inzhener.

Mechanization of the founding shop of the Saratov building machinery plant. Stroi. i dor. mashinostr. no.2:21-22 F '57. (MIRA 10:3)
(Saratov--Foundries)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

SOV/128-59-6-20/25

18(5)
AUTHOR: Yezhakov, A.N., Engineer

TITLE: Gravity Die Casting of Winch Drums

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 6, p 43 (USSR)

ABSTRACT: At the plant for construction machinery at Saratov the winch drums are cast now by the gravity die casting method. A diagram shows the die and gives instructions how to machine the die from cast iron type S h 18-38. One die can serve for 120 to 130 pourings. At the beginning of the working process the dies are pre-heated up to 200° to 250°C. There follows a description of the assembly of the die components. The winch drums produced in this manner have smooth, clean surfaces without blow holes or blisters. During 1957 2,000 winch drums with a weight of from 125 to 250 kg have been cast. After the introduction of the new casting method the average weight could be reduced 30 kg. This means an annual saving of 60 tons of metal and an annual saving of 17,550 standard work hours by elimination of mechanical treatment of the drums. (Total

Card1/2

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

Gravity Die Casting of Winch Drums SOV/128-59-6-20/25

annual monetary savings: 185,000 Rubles). There are 3 diagrams and 1 photograph

Card 2/2

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

BATOV, Pavel Ivanovich, general armii; YEZHAKOV, V.I., polkovnik, red.; ZAYTSEV, P.P., red.

[Operation "Oder"; combat operations of the 65th Army in the Berlin operation, April-May 1945] Operatsiia "Oder"; boevye deistviia 65-i armii v Berlinskoi operatsii, aprel'-mai 1945 goda. Moskva, Voenizdat, 1965. 141 p. (MIRA 18:3)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

SAMCHUK, Ivan Anikeyevich; YEZHAKOV, V.I., red.

[Poltava Guards Division; a short sketch of the combat record of the 97th Poltava Guards Red Banner Rifle Division decorated with the Orders of Suvorov and Bohdan Khmel'nits'kyi] Gvardeiskaia Poltavskaia; kratkii ocherk o boevom puti 97-i gvardeiskoi Poltavskoi Krasnoznamennoi ordenov Suvorova i Bogdana Khmel'nitskogo strelkovoi divizii. Moskva, Voenizdat, 1965. 150 p. (MIRA 18:5)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

CHIGAL, V., kand.tekhn.nauk; YEZHEK, Ya., doktor tekhn.nauk

Structure and distribution of secondary constituents in stainless austenite steel. Metalloved. i term. obr. met. no.8:17-19 Ag '60. (MIRA 13:9)

1. Institut po zashchite materialov imeni G.V.Akimova i Nauchno-issledovatel'skiy institut materialov i tekhnologii, Praga.
(Steel, Stainless--Metallography)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

KOUTSKI, Ya., kand.tekhn.nauk; YEZHEK, Ya., doktor

Isolation of Laves Phases in steels with 12 percent chromium. Metalloved. i term. obr. met. no.3:29-33 Mr '62. (MIRA 15:2)

1. Zavody imeni Lenina, Pl'zen', i Gosudarstvennyy issledovatel'skiy institut materialov i tekhnologii, Praga.
(Chromium steel—Metallography)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

TAIROV, Vladimir Dmitriyevich; VOL'VICH, Nikolay Iosifovich; MEDVEDEV, Mikhail Ivanovich. Prinimali uchastiye: BOCHKOVSKAYA, N.L., starshiy inzh.; YEZHEL', F.A., glav. arkhitektor; ALEKSANDROVSKIY, A., red.; ZELENKOVA, Ye., tekhn. red.

[Built-up roofs] Sovmeshchennye pokrytiia. Kiev, Gos. izd-vo lit-ry po stroit. i arkhit. USSR, 1961. 74 p. (MIRA 14:9)

1. Rabotniki Nauchno-issledovatel'skogo instituta stroitel'nykh konstruktsiy i Nauchno-issledovatel'skiy institut eksperimental'nogo proyektirovaniya Akademii stroitel'stva i arkhitektury USSR (for Tairov, Vol'vich, Medvedev).
(Roofs)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

DEVYATYKH, G.G.; ZORIN, A.D.; AMEL'CHENKO, A.M.; LYAKHMANOV, S.B.; YEZHELEVA, A.Ye.

Chromatographic analysis of mixtures formed by some volatile inorganic hydrides. Dokl. AN SSSR 156 no. 5:1105-1108 Je '64. (MIRA 17:6)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete im. N.I.Lobachevskogo. Predstavleno akademikom N.M.Zhavoronkovym.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

SOV/156-58-4-28/49

AUTHORS: Devyatykh, G. G., Zorin, A. D., Yezheleva, A. Ye.

TITLE: The Analysis of the Mixture of Divinyl, the Isomers of Butane and Butylene by the Method of Gas-Liquid Distribution Chromatography (Analiz smesi divinila, izomerov butana i butilena metodom gazo-zhidkostnoy raspredelitel'noy khromatografii)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 4, pp 724-726 (USSR)

ABSTRACT: In the present paper a new method of analyzing the mixtures of divinyl, the isomers of butane and butylene by means of the gas-liquid distribution chromatography was described. The apparatus is described and the method is given in detail. Nitrogen was used as elution gas and kieselguhr with the grain size 0.1-0.25 mm was used as adsorbing agent. The following solvents were used: dimethyl formamide, saturated solution of $AgNO_3$ in ethylene glycol, furfurole and nitrobenzene. The chromatographs of the mixtures are given in table 3 and 2. The maximum length of the column is 5m. A complete separation of the component is obtained in the following way: The first part of the column,

Card 1/2

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

The Analysis of the Mixture of Divinyl, the Isomers of Butane and Butylene by the Method of Gas-Liquid Distribution Chromatography

1.5m in length, contains saturated silver nitrate in ethylene glycol as solvent. The second part of the column, 3m in length, contains furfurole as solvent. The accuracy of the method was checked by means of the synthetic mixtures and it was ascertained that the relative error in the determination is 2-3% and that the preparation of the chromatographs takes 25 min. There are 3 figures, 1 table, and 1 reference.

ASSOCIATION: Kafedra neorganicheskoy khimii Gor'kovskogo gosudarstvennogo universiteta im. N. I. Lobachevskogo (Chair of Inorganic Chemistry at the Gorkiy State University imeni N. I. Lobachevskiy)

SUBMITTED: April 25, 1958

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

DEVYATYKH, G.G.; ZORIN, A.D.; DUDOROV, V.Ya.; YEZHELEVA, A.Ya.; SMOLYAN, Z.S.

Separation of bivinyl from the butane-butylene fraction by extractive rectification. Zhur.prikl.khim. 35 no.7:1597-1601 Jl '62. (MIRA 15:8)

(Butadiene) (Butane) (Extraction (Chemistry))

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

DEVYATYKH, G.G.; YEZHELEVA, A.Ye.; ZORIN, A.D.; ZUYEVA, M.V.

Solubility of the volatile hydrides of elements of the groups III - VI in certain solvents. Zhur. neorg. khim. 8 no.6:1307-1313 Je '63. (MIRA 16:6)

(Hydrides) (Solubility)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

ZORIN, A.D.; YEZHELEVA, A.Ye.; DEVYATYKH, G.G.

Determination of the solubility of gases by the method of gas-liquid partition chromatography. Zav. lab. 29 no.6:659-662 '63. (MIRA 16:6)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete.
(Gases) (Solubility)
(Gas chromatography)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

KAMZOLKIN, V.V.; BASHKIROV, A.N.; KHOTIMSKAYA, M.I.; GROZHAN, M.M.; YEZHENKINA, G.M.

Synthesis of aliphatic $C_6 - C_{10}$ alcohols by the liquid phase oxidation of paraffins under pressure. Neftekhimiia 1 no.2: 244-254 Mr-Ap '61. (MIRA 15:2)

1. Institut neftekhimicheskogo sinteza AN SSSR.
(Alcohols) (Oxidation) (Paraffins)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZHEVA, P.S.; GUSEVA, L.T.; KURCHININA, P.G.; GUROVA, T.G.; MISHCHENKO, G.I.; BERDNIKOVA, M.V.; TRAVINA, L.D.; ZORINA, P.T., red.

[Economy of Magadan Province; statistical collection] Narodnoe khoziaistvo Magadanskoi oblasti; statisticheskii sbornik. Magadan, 1960. 110 p. (MIRA 14:10)

1. Magada (Province) Statisticheskoye upravleniye. 2. Rabotniki Magadanskogo oblastnogo statisticheskogo upravleniya (for all except Zorin). 3. Nachal'nik Magadanskogo oblastnogo statisticheskogo upravleniya (for Zorin).
(Magadan Province—Statistics)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZHEVSKAYA, V.V., kandidat meditsinskikh nauk (Kiyev)

Some problems in the clinical aspects and treatment of secondary cervical radiculitis. Vrach.delo no.7:697 Jl '57. (MLRA 10:8)
(SPINE--DISEASES)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZHEVSKAYA, V.V., kand.med.nauk (Kiyev)

Vascular pathology of the brain in myocardial infarct. Vrach. delo no.12:83-86 D '60. (MIRA 14:1)

1. Poliklinika No 2 chetvertogo upravleniya Ministerstva zdravookhraneniya USSR.
(BRAIN--DISEASES) (HEART--INFARCTION)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZHEVSKAYA, V.V., kand.med.nauk (Kiyev)

Involvement of the vessels of the brain, lower extremities and heart in endarteritis obliterans. Vrach. delo no.5:46-51 My '62. (MIRA 15:6)

(ARTERIES--DISEASES)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZHEVSKAYA, V.V., kand. med. nauk (Kiyev)

Some characteristics of the clinical course of hypertension combined with endarteritis obliterans. Vrach. delo no.12: 52-56 D '63. (MIRA 17:2)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

Yezhik, I.I.

AUTHORS: Yezhik, I.I., Kovalev, I.A. 32-11-32/60

TITLE: A Method of Determining Concentrations According to Spectral Lines Located in Different Domains of the Spectrum (Metodika opredeleniya kontsentratsii po spektral'nym liniyam, raspolozhennym v raznykh oblastyakh spektra)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 11, pp. 1355-1357 (USSR)

ABSTRACT: The equations described in the paper (1-3) serve the purpose of determining concentration according to analytical pairs of lines near the long-wave boundary. In the case of a large distance between these lines the factor of contrast (γ) must be taken into account. If a corresponding coefficient is introduced into the equation, the concentration of the component according to the lines located in different domains of the spectrum can be determined. In this case the equation is as follows:

$$S_2 - pS_1 = {}_2b \; g \frac{C}{C} + {}_2 \; g \, a, \text{ where } p = r \frac{2}{1} \text{ is the}$$

correction coefficient. (The application of the formula is described). Accordingly, also the correction of the nonuniformity of the film is calculated, i.e. an average value of the differences of blackening according to the data of photometrization of all spectrograms made by

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A Method of Determining Concentrations According to Spectral Lines Located in Different Domains of the Spectrum

the film is determined. (There follows an example of spectroanalysis). As a result a table of the determination of the sodium concentrations with respect to potassium and a table of the results of the alkali determination in the solutions given is mentioned. This method of analyzing the aqueous solution of the hydrochlorides of sodium and potassium salts makes it possible to determine the content of potassium of 0.005 g/ml and of sodium of 0.0005 g/ml. This method can also be applied for the analysis according to the method of combined light dispersion as also in molecular spectroscopy. There are 1 figure, 2 tables, and 3 references, 2 of which are Slavic.

ASSOCIATION: Khar'kov Institute for Building Engineering (Khar'kovskiy inzhenerno-stroitel'skiy institut)

AVAILABLE: Library of Congress

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZHIK, I.I. [IEzhyk, I.I.]

Infrared luminescence of F-centers in alkali halide crystals [in Ukrainian with summary in English]. Ukr. fiz. zhur. Supplement to 3 no.1:56-63 '58. (MIRA 11:6)

1.Kharkivs'kiy inzhenerno-budivel'niy institut.
(Alkali halide crystals--Spectra)
(Luminescence)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZHIK, I.I.; SHAVLO, S.T.

Dependence of the intensity of infrared and visible luminescence on temperature and X-ray time in NaCl, KCl, and KBr crystals. Izv. vys.ucheb.zav.; fiz. no.3:62-67 '59. (MIRA 12:10)

1. Khar'kovskiy pedinstitut imeni G.S.Skovorody.
(Luminescence) (Alkali metal halides--Crystals)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZHIK, I.I.; SHAVLO, S.T.

Dielectric losses in X-irradiated alkali halide crystals studied at low temperatures on the 3.18 cm. wavelength. Izv. vys. uchob. zav.; fiz. no.4:140-146 '59. (MIRA 13:3)

1.Khar'kovskiy pedinstitut.
(Alkali halide crystals--Electric properties)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

85157

S/139/60/000/005/003/031
24.7800 E073/E135

AUTHORS: Yezhik, I.I., Shavlo, S.T.

TITLE: On the Dielectric Losses in X-ray Irradiated Crystals of NaCl, KCl and KBr Investigated at Elevated Temperatures at Wavelength 3.18 cm.

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1960, No. 5, pp 13-20

TEXT: In earlier work (Ref. 1) the authors investigated the dielectric losses in X-ray irradiated alkali-halide crystals during illumination in the F-absorption band at the frequency 10^{10} c.p.s. in the temperature range -196 to +20 °C. They detected on the tg δ temperature curve maxima in the dielectric losses which for NaCl crystals were located at 220 °K and for KCl crystals were located at 140, 220, 270 and 310 °K, whilst for the KBr crystals they were at 160 and 150 °K. The temperatures of the dielectric loss maxima coincided with the appropriate peaks on the photoluminescence and photoconductivity curves. A kinetic scheme was presented which permits elucidating the cause of maxima on the tg δ curves in the low temperature range.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

85157

S/139/60/000/005/003/031
E073/E135

On the Dielectric Losses in X-ray Irradiated Crystals of NaCl, KCl and KBr Investigated at Elevated Temperatures at Wavelength 3.18 cm.

In the present paper the dependence of tg δ on the temperature is investigated for X-ray irradiated NaCl, KCl and KBr crystals excited in the F band in the temperature range 290-600 °K at the wavelength 3.18 cm. The relations between the dielectric losses, the luminescence and the photoconductivity are investigated. For measuring the dielectric constant the variational method was used in which the existence of clearances between the specimen and the waveguide wall does not affect appreciably the accuracy of measurement (Ref. 2). This is important due to the fact that the coefficient of linear expansion of the material of the waveguide walls differs from that of the specimen. The specimens were rectangular, with a cross-section equalling that of the waveguide. The crystals were grown according to the Kiropulos method and had a high degree of purity. To obtain as high saturation as possible of the crystals with F-, F'-, M- and other coloration centres the

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85157

S/139/60/000/005/003/031
E073/E135

On the Dielectric Losses in X-ray Irradiated Crystals of NaCl, KCl and KBr Investigated at Elevated Temperatures at Wavelength 3.18 cm.

specimens were exposed to X-ray radiation at room temperature for 30-40 min and at the liquid nitrogen temperature for 5-10 min. The dependence of tg δ on the temperature was measured after heating a specimen from 77 °K to room temperature. The specimens were stored in darkness. No loss maxima were observed in the curves expressing the dependence of the dielectric losses on the temperature in the temperature range 77 to 600 °K, in alkali-halide crystals which were exposed to X-ray radiation and were not excited by light in the F-absorption band at the frequency 10^{10} c.p.s. In the temperature range 77 to 300 °K a monotonous increase in the losses was observed; in the temperature range 300 to 600 °K a progressive increase was observed in the dielectric losses with increasing temperature. The increase in the dielectric losses at elevated temperatures are obviously due to the weakening of the forces of interaction between the ions of the crystal lattice. As a result of that the ions are easily brought into motion by the ultrahigh frequency and absorb energy which results in a still

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S/139/60/000/005/003/031
E073/E135

On the Dielectric Losses in X-ray Irradiated Crystals of NaCl, KCl and KBr Investigated at Elevated Temperatures at Wavelength 3.18 cm.

greater increase in the losses. For alkali-halide crystals which have been exposed to X-rays, illuminated in the F-absorption band in the range 77 to 600 °K at the wavelength 3.18 cm, dielectric loss maxima were observed on the tg δ vs. temperature curves for the temperatures 200, 350, 410 and 490 °K for NaCl; 140, 220, 270, 310, 320 and 390 °K for KCl; and 160, 250 and 350 °K for KBr. The temperatures of the maxima of the dielectric losses correspond to the peaks of the curves of the dependence of the infrared, visible and ultraviolet luminescence and photoconductivity on temperature. A part of the observed maxima of the dielectric losses, luminescence peaks and photoconductivity coincides with the temperature of disintegration of F-, F', M- and other coloration centres. In the case that coloured alkali-halide crystals are excited by light in the F-absorption band and heated in the temperature range 77 to 600 °K, maxima of the dielectric losses and peaks in the infrared, visible and ultraviolet luminescence and the photocurrent occur simultaneously. All these phenomena

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

85157

S/139/60/000/005/003/031
E073/E135

On the Dielectric Losses in X-ray Irradiated Crystals of NaCl, KCl and KBr Investigated at Elevated Temperatures at Wavelength 3.18 cm.

occur under identical experimental conditions; consequently they are caused by a single although complicated mechanism.

There are 3 figures and 18 references: 13 Soviet, 3 English, 1 Swedish and 1 German.

ASSOCIATION: Khar'kovskiy pedinstitut imeni G.S. Skovorody
(Khar'kov Pedagogic Institute imeni G.S. Skovoroda)

SUBMITTED: September 24, 1959

Card 5/5

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

83364

S/139/60/000/004/024/033
E201/E591

9.4170

AUTHORS: Yezhik, I. I. and Shavlo, S. T.

TITLE: Infrared Fluorescence of F-centres and its Mechanism in Subtractively Coloured Alkali-Halide Crystals Investigated at High Temperatures

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1960, No.4, pp. 190-197

TEXT: Infrared fluorescence of subtractively coloured NaCl, KCl and KBr crystals, illuminated in the F-centre absorption band, was studied between 290-540°K. The authors studied the decay of infrared fluorescence and the possibility of infrared emission at temperatures producing thermal decomposition of F-centres. Crystals, grown by the Kyropoulos method, were coloured by X-ray irradiation at low temperatures until F-centre saturation was achieved (Ref.3) and then were heated slowly in darkness to room temperature. Infrared fluorescence was recorded by means of a photoresistor FS-1A and the resultant signal was amplified. A modulating disc was placed between a lens which focused the fluorescence and the photoresistor. The temperature dependence of the fluorescence

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

S/139/60/000/004/024/033
E201/E591

Infrared Fluorescence of F-centres and its Mechanism in Subtractively Coloured Alkali-Halide Crystals Investigated at High Temperatures

intensity had maxima at 332, 352, 410 and 445°K for NaCl, at 312 and 361°K for KCl and at 300 and 330°K for KBr (Fig.1). Figs. 2-4 show the decay of infrared fluorescence after illumination with light in the F-centre absorption band (Fig.2 refers to NaCl, Fig.3 refers to KCl and Fig.4 refers to KBr). The following conclusions were drawn from the results.

1) Thermal excitation and thermal ionization of F-centres (without additional illumination in the F-centre absorption band) did not produce infrared fluorescence at temperatures from 77 to 540°K.

2) The observed infrared fluorescence decayed exponentially.

3) A photochemical reaction $F' + h\nu \rightleftarrows 2F$ occurred in production of infrared fluorescence.

4) Potential curves could be used to describe the kinetics of the F-centre infrared fluorescence at high temperatures.

5) The infrared fluorescence ceased above 456°K in NaCl, above 372°K in KCl and above 338°K in KBr. Above these temperatures the

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83364
S/139/60/000/004/024/033
E201/E591

Infrared Fluorescence of F-centres and its Mechanism in Subtractively Coloured Alkali-Halide Crystals Investigated at High Temperatures

crystals could not be coloured with X-rays.
The authors give a kinetic explanation of production and decay of the infrared fluorescence and of the maxima in the temperature dependences of the fluorescence intensity. There are 5 figures, 1 table and 17 references: 11 Soviet and 6 English.

ASSOCIATION: Khar'kovskiy pedinstitut imeni G. S. Skovorody (Khar'kov Pedagogical Institute imeni G.S.Skovoroda)

SUBMITTED: June 24, 1959

Card 3/3

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

9,4170

S/051/60/009/006/010/018
E201/E191

AUTHORS: Yezhik, I.I., and Shovlo, S.T.

TITLE: The Role of M, R and F' Colour Centres in the Infrared Fluorescence of F-Centres in Alkali-halide Crystals

PERIODICAL: Optika i spektroskopiya, 1960, Vol.9, No.6, pp 772-774

TEXT: The infrared fluorescence of F-centres was observed at 1-1.5 μ in additively coloured (Ref.1) and in X-ray irradiated (Refs 2, 3) alkali-halide crystals. The present paper deals with the infrared fluorescence of F-centres in KCl and KBr additively coloured using Artsybyshev's technique (Ref.4). After coloration the crystals were cooled to the temperature of liquid nitrogen; this ensured that only F-centres remained in them. A photoresistor ФС-Al (FS-Al) was used as a receiver of infrared fluorescence. Weak currents were amplified with a resonance amplifier (Ref.2). The intensity of the infrared fluorescence of F-centres was recorded between 77 and 600 °K. To find the role of F'-, M- and R-centres in the infrared fluorescence of F-centres the following experiments were carried out: 1) a crystal was excited simultaneously in the F- and F'-bands; 2) the crystal was excited

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S/051/60/009/006/010/018
E201/E191

The Role of M, R and F' Colour Centres in the Infrared Fluorescence of F-Centres in Alkali-halide Crystals

simultaneously in the F-, F'- and M-bands; 3) the crystal was excited simultaneously with light of wavelengths in the F- and M-bands. The infrared fluorescence of F-centres in KCl and KBr is shown in Figs 1 and 2 respectively. Curves 1, 2 and 3 were obtained in experiments (1), (2) and (3) described above. The results are interpreted by an energy-band system (Fig.3) with F-centres represented by two levels (ground and excited), and with F'-, M- and R-centres regarded as electron acceptor levels in the forbidden band.
There are 3 figures, 1 table and 6 references: 4 Soviet, 1 Dutch and 1 English.

SUBMITTED: October 28, 1959

Card 2/2

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

S/190/61/003/001/020/020
B119/B216

AUTHOR: Urazovskiy, S. S., Yezhik, I. I.

TITLE: A new reflection effect in solid phase transformations in solutions and its application to polymer research

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 1, 1961, 150-151

TEXT: The present work studies the temperature dependence of the tangent of dielectric loss, tanδ of dilute polymer solutions. The experimental results may be applied to the analysis of polymers. As is reflected in a diagram, the course of the tanδ against temperature curves of 2% solutions of polyvinyl chloride, polymethyl methacrylate, polyvinyl acetate and polystyrene exhibit clearly ascertainable anomalies at specific temperatures characteristic of solid configurational transformations (including second-order transitions). The authors assume the high sensitivity of this effect as regards the type of configurational changes in the macromolecule in dilute solution to be due to the cooperative character of the mechanism of the changes occurring in the layer of solution close to the electrode. As a result of the oriented state of the macromolecules at the interface

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A new reflection effect in solid...

solution - condenser, this layer exhibits maximum lability with respect to the dielectric losses connected with the relaxation time of the molecules in a high-frequency field. The strength of this effect depends essentially on the type of solvent, concentration and measuring frequency. A careful choice of these conditions enables satisfactory measurements (non-aqueous solutions) to be carried out in an instrument of the quality of the type КВ-1 (KV-1). There are 1 figure, 1 table, and 5 references: 2 Soviet-bloc and 2 non-Soviet-bloc.

SUBMITTED: May 16, 1960

Table:

Polymer	Anomaly in the course of the curve, °C
polystyrene	70, 80
polyvinyl acetate	29
polymethyl methacrylate	60
polyvinyl chloride	53
ditto	75

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

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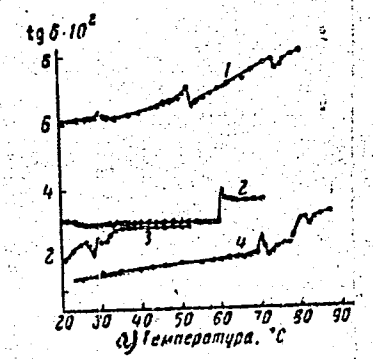
B119/B216

A new reflection effect in solid...

Legend to Fig.
1) polyvinyl chloride in chloro benzene (180 kc/sec)
2) polymethyl methacrylate in benzene (600 kc/sec)
3) polyvinyl acetate in benzene (200 kc/sec)
4) polystyrene in p-xylene (180 kc/sec)
a) temperature



Card 3/3

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

38051 R
S/051/60/009/006/010/018
E201/E314

24,3500

AUTHORS: Yezhik, I.I. and Shovlo, S.T.

TITLE: The Role of M-, R- and F'-Colour Centres in the Infrared Fluorescence of F-Centres in Alkali-halide Crystals

PERIODICAL: Optika i spektroskopiya, 1960, Vol. 9, No. 6, pp. 772 - 774

TEXT: The infrared fluorescence of F-centres was observed at 1-1.5 μ in additively coloured (Ref. 1) and in X-ray irradiated (Refs. 2, 3) alkali-halide crystals. The present paper deals with the infrared fluorescence of F-centres in KCl and KBr additively coloured using Artsybyshev's technique (Ref. 4). After coloration the crystals were cooled to the temperature of liquid nitrogen; this ensured that only F-centres remained in them. A photoresistor [illegible] (FS-A1) was used as a receiver of infrared fluorescence. Weak currents were amplified with a resonance amplifier (Ref. 2). The intensity of the infrared fluorescence of F-centres was recorded between 77 and 600 °K. To find the rôle of F'-, M-

Card 1/[illegible] 2

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E201/E314

The Role of ....

R-centres in the infrared fluorescence of F-centres the following experiments were carried out: 1) a crystal was excited simultaneously in the F- and F'-bands; 2) the crystal was excited simultaneously in the F-, F'- and M-bands; 3) the crystal was excited simultaneously with light of wavelengths in the F- and M-bands. The infrared fluorescence of F-centres in KCl and KBr is shown in Figs. 1 and 2, respectively. Curves 1, 2 and 3 were obtained in experiments (1), (2) and (3) described above. The results are interpreted by an energy-band system (Fig. 3) with F-centres represented by two levels (ground and excited), and with F'-, M- and R-centres regarded as electron-acceptor levels in the forbidden band.
There are 3 figures, 1 table and 6 references: 4 Soviet and 2 non-Soviet.

SUBMITTED: October 28, 1959

Card 2/2

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

URAZOVSKIY, S.S.; YEZHIK, I.I.

New phenomenon reflecting solid phase transformations in solutions and its application to the investigation of polymers. Vysokom. soed. 3 no.1:150-151 Ja '61. (MIRA 14:2)
(Polymers)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

S/139/62/000/004/012/018
E194/E435

AUTHORS: Urazovskiy, S.S. (deceased), Yezhik, I.I.

TITLE: Frequency and concentration relationships of the dielectric loss angle which reflect various structural transformations of the dissolved substances

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Fizika, no.4, 1962, 146-150

TEXT: Tests were made on benzene solutions of o-cresol, acetophenone and diphenylamine at various concentrations and frequencies in the range 10^4 to 10^{10} c/s; 1.2 and 3% solutions of polystyrene in m-xylol at a frequency of 180 kc/s and a 2% solution of polyvinylchloride in chlorbenzene at frequencies of 180, 600 kc/s and 1.6 Mc/s. Anomalous points were found on the curves of tan δ as function of temperature at or near temperatures corresponding to conversion points in the solid phases and also at points corresponding to finer enantiotropic conversions not associated with aggregate conversions. In addition to the phase conversion points found by classical methods of phase analysis, conversion points were found for o-cresol at

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Frequency and concentration ...

27°C and for an enantiotropic conversion of acetophenone in the region of 14°C. Aggregate conversions for diphenylamine were observed in the concentration range from 0.01 to 10%. The optimum concentration for benzene solutions of o-cresol and acetophenone are in the range of 1 to 3% and for polymer solutions 0.5 to 3%. The experimental results are given in the form of graphs. There are 6 figures.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut imeni V.I.Lenina (Khar'kov Polytechnical Institute imeni V.I.Lenin)

SUBMITTED: April 3, 1961 (initially)
July 4, 1961 (after revision)

Card 2/2

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

S/139/62/000/005/005/015
E194/E335

24,780

AUTHOR: Yezhik, I.I.

TITLE: The dielectric loss of X-ray irradiated fluorite crystals studied at low temperatures on a wavelength of 3.18 cm

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, no. 5, 1962, 81 - 85

TEXT: A waveguide-variation method was used to determine the dielectric loss of X-ray irradiated crystals of CaF_2 in the temperature range 77 - 300 °K on exposure to light in the band of absorption of F-centres at a wavelength of 3.18 cm. It was found that the crystals of CaF_2 had a dielectric loss maxima at temperatures of 110, 180, 220 and 280 °K. These maxima were found to be related to those observed on the curves of infra-red, visible and ultraviolet luminescence as a function of temperature. The mechanism of the occurrence of maxima on the curves of tan δ as a function of temperature is proposed. There are 3 figures.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

The dielectric loss ....

S/139/62/000/005/005/015
E194/E335

ASSOCIATION: Kiyevskiy tekhnologicheskiy institut legkoy promyshlennosti (Kiev Technological Institute of Light Industry), Khar'kovskiy UKP (Khar'kov UKP)

SUBMITTED: March 1, 1961

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019630200

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZHIK, I.I.

Infrared luminescence of F-centers in X-rayed fluorite crystals. (MIRA 15:2)
Opt. i spektr. 12 no.1:92-94 Ja '62.
(Fluorite crystals)
(Infrared rays)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

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S/073/62/028/003/002/004
B110/B101

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AUTHORS: Urazovskiy, S. S. (Deceased), Yezhik, I. I.

TITLE: New method of studying structural changes of polymers

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v. 28, no. 3, 1962, 329-332

TEXT: The temperature and concentration dependences of the tangent of the loss angle was studied in moderately dilute solutions of a number of polymers between 10^4 and 10^7 cps by the resonance method using a KB-1 (KV-1) Q-meter. The loss angle is given by $\tan\delta = \varepsilon''/\varepsilon'$ where ε' is the dielectric constant of the medium measured at a given frequency ($\varepsilon' = C/C_o$); ε'' is the coefficient of the dielectric losses ($\varepsilon'' = 1/2\pi fRC_o$); C_o and C^o are the capacities of the uncharged and charged capacitors and R is the resistance of the dielectric at the measured frequency f in cps. Transformations occurring in the solid phase of the dissolved substances became apparent through distortion of the monotone course of the $\tan\delta(t)$ curves. The temperatures of the structural changes (transitions of the second order) were ascertained as follows: polystyrene (in xylene) 68, 78°C;

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polymethyl methacrylate (in benzene) 59°C; PVC (in chlorobenzene) 52, 75°C. The high sensitivity of the effects to structural changes of the molecules in very dilute solutions is explained by a cooperative mechanism of transformation in the layer adjoining the electrodes. Owing to the interfacial orientation of the molecules the dielectric losses are here very labile, being dependent on the relaxation times of the molecules in the high-frequency field. The configuration of the anomaly of the $\tan\delta(t)$ curves depends essentially on the type of solvent, the concentration, and the frequency at which measurements are taken. Therefore, it is recommended to choose conditions under which maximum changes are observed. This research method can be important for aqueous solutions of polyelectrolytes, polyamino acids and other biopolymers. There are 2 figures and 1 table.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina (Khar'kov Polytechnic Institute imeni V. I. Lenin)

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URAZOVSKIY, S.S. [deceased]; YEZHIK, I.I.

Frequency and concentration dependence of the dielectric loss angle reflecting various structural transformations of dissolved substances. Izv.vys.uch.zav.; fiz. no.4:146-150 '62. (MIRA 15:9)

1. Khar'kovskiy politekhnicheskiy institut imeni V.I. Lenina.
(Dielectric loss) (Solution (Chemistry))

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URAZOVSKIY, S. S.[deceased]; TEZHIK, I. I.

New method of studying the configuration transformations of polymers. Ukr. khim. zhur. 28 no.3:329-332 '62. (MIRA 15:10)

1. Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina.

(Polymers)

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URAZOVSKIY, S.S. [deceased]; YEZHIK, I.I.

Crystal phase tranformations as reflected in the temperature dependence of the dielectric propertios of liquids and solutions. Zhur. fiz. khim. 36 no.1:156-160 Ja '62. (MIRA 16:8)

1. Khar'kovskiy politekhnicheskiy institut im. V.I.Lenina.
(Solution (Chemistry)--Electric properties)
(Crystallography)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZHIK, I.I.

Dielectric loss in X-rayed fluorite crystals when studied at low temperatures at a wavelength of 3.18 cm. Izv. vys. ucheb. zav.; fiz. no.5:81-85 '62. (MIRA 15:12)

1. Kiyevskiy tekhnologicheskiy institut legkoy promyshlennosti, Khar'kovskiy uchebno-konsul'tatsionnyy punkt.
(Fluorite crystals)
(Dielectrics, Effect of radiation on)
(Low temperature research)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001963020020-8

YEZHIK, I.I.

Dielectric loss in X-rayed crystals as studied in the 290°--700°K range at a wavelength of 3.18 cm. Izv. vys. ucheb. zav.; fiz. no.5: 41-44 '64. (MIRA 17:11)

1. Kiyevskiy tekhnologicheskiy institut legkoy promyshlennosti.

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L 3664-66 EWT(l)/EPA(s)-2/EWT(m)/EPF(c)/EWP(j)/EWA(c) UR/WW/JW/GG/EM
ACCESSION NR: AP5011389 UR/0139/65/000/002/0134/0138

AUTHORS: Urazovskiy, S. S. (deceased); Yezhik, I. I.

TITLE: Anomalies in the temperature dependence of the dielectric properties of liquid nitrobenzene

SOURCE: IVUZ. Fizika, no. 2, 1965, 134-138

TOPIC TAGS: nitrobenzene, dielectric property, dielectric loss, loss angle, temperature dependence, molecular configuration

ABSTRACT: The authors investigated the temperature dependence of the dielectric properties of pure nitrobenzene and dilute solutions of nitrobenzene in the microwave and medium-wave bands. The dielectric constant and the tangent of the loss angle of the nitrobenzene were measured by two standard methods, one involving a waveguide with a constant layer of dielectric, and the other with a variable layer. In addition, the authors measured the dependence of the refractive index on the temperature in the inter-

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ACCESSION NR: AP5011389

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val 6 -- 45C. The results disclosed the existence of anomalies in the temperature dependence of the dielectric properties at [illegible] frequencies [illegible] and 34C. The [illegible] in the loss [illegible] at [illegible] frequencies were observed [illegible]. [illegible] The temperature dependence of the refractive index of nitrobenzene [illegible] by the method of [illegible] (J. Chem. Phys. v. 9, 341, 1941) show that nitrobenzene has a set of relaxation times (the most probable is of the order of 2.3 $\times 10^{-11}$ sec), and that there is a critical wavelength, approximately [illegible] which the dielectric loss reaches a maximum

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina (Khar'kov Polytechnic Institute)

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L 3004-66
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SUBMITTED: 12Jul63 ENCL: 00 SUB CODE: OC,EM

NR REF SOV: 006 OTHER: 002

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Card 3/3

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